

Comments regarding draft KDB 935210 D04

The testing of frequency stability as required in section 7.15 should be waived for boosters whose design will not affect frequency stability. There are at least two cases that are relevant:

1. The booster does not contain an oscillator.
2. An oscillator is used in such a way that it doesn't affect output frequency. For example, the signal entering the booster is mixed with a signal from an oscillator which results in a lower intermediate frequency that is then processed (filtered, DSP, etc). After processing, the IF signal is again mixed with the (same) oscillator signal, but in an additive fashion resulting in the original frequency. The effect of any drift in frequency by the oscillator is cancelled because before processing, subtractive mixing is used, while after processing additive mixing is used with the same oscillator.

Therefore, it's suggested to add the following introductory paragraph to section 7.15:

The following procedure shall be used to determine the frequency stability as required by 47 CFR 2.1055 as well as Rule parts 22.355, 24.135 and 27.54 as applicable for the bands of operation of the booster. If not applicable due to design, a detailed explanation to that effect must be included in the operational description submitted by the applicant.